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LAND USE SURVEY & ANALYSIS ASHE COUNTY, NORTH CAROLINA

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INTRODUCTION

Objective of Land Use Survey and Analysis

A prerequisite for the initiation of an effective planning program is the survey and analysis of land uses in the County by the Planning Board. Article 2 of Chapter 153 of the General Statutes of North Carolina states what a planning board is authorized to do:

The county commissioners are authorized to create a board to be known as the planning board, whose duty shall be to make a careful study of the resources, possibilities and needs of the county, particularly with respect to the conditions which may be injurious to the public welfare or otherwise injurious, and to make plans for the development of the county. The planning board, when established, shall make a report at least annually to the county commissioners, giving information regarding the condition of the county, and any plans or proposals for the development of the county and estimates of the cost thereof.¹

The Land Use Survey and Analysis is designed to provide the planning Board with the data base in order that it can develop future development plans for the County.

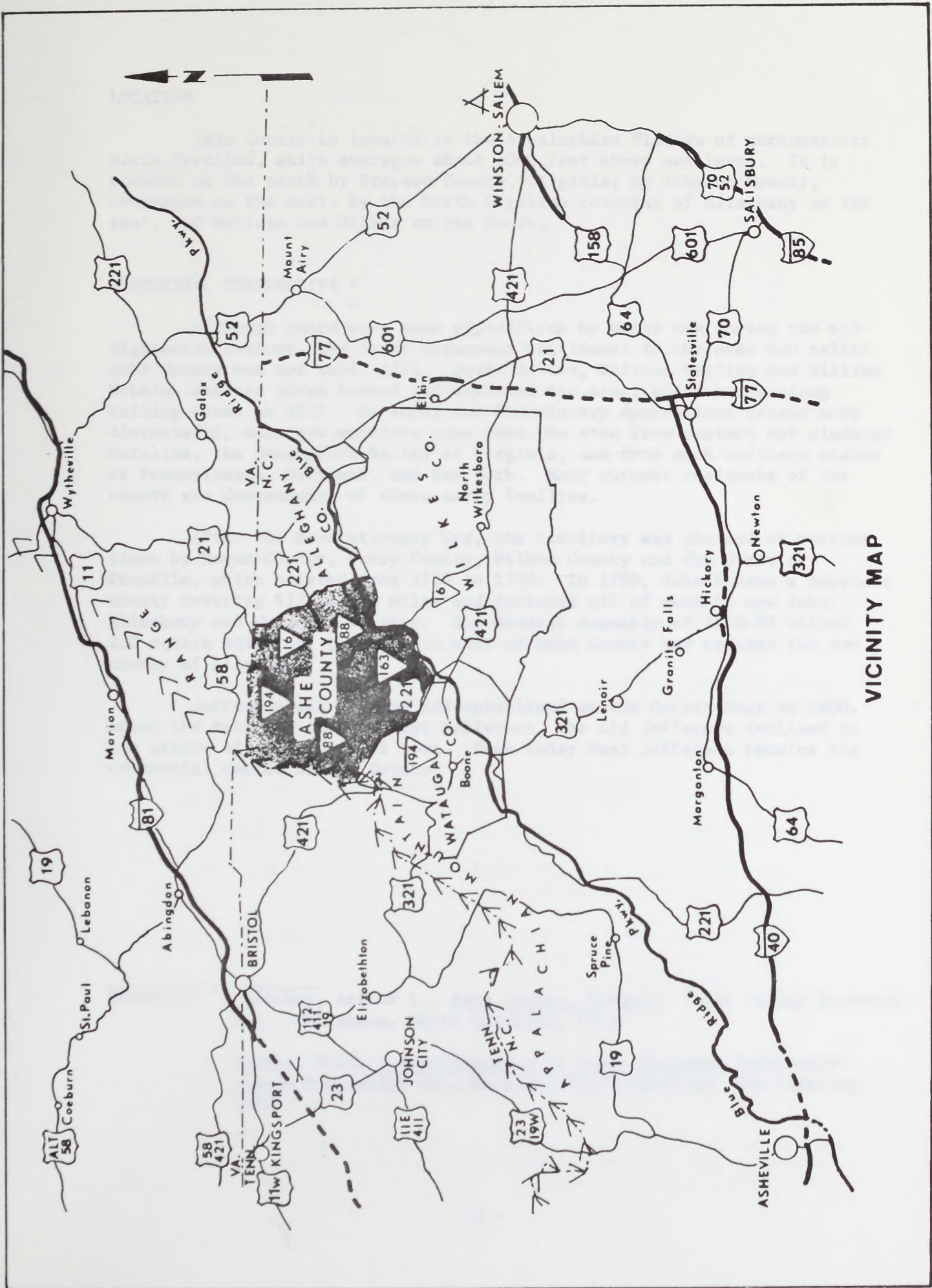
Scope of this Report

Initially this study will examine the social, economic and physical factors that influence land development. Once these factors have been covered, a careful analysis of existing land uses in the County will be made. This analysis will stress trends in land development patterns and problem areas associated with the development pattern.

Planning Area

The planning area is designated as all the territory beyond the limits of the incorporated towns in Ashe County.

1. G.S. 153-9 (40)



VICINITY MAP

LOCATION

Ashe County is located in the Appalachian Plateau of northwestern North Carolina, which averages about 3000 feet above sea level. It is bounded on the north by Grayson County, Virginia; by Johnson County, Tennessee on the west; by the North Carolina counties of Alleghany on the east, and Watauga and Wilkes on the South.

HISTORICAL PERSPECTIVE *

Although there were some expeditions by white men during the mid-eighteenth century, the first permanent settlement in the area now called Ashe County was not until 1772. David Helton, William Walling and William McLain, who had often hunted and explored the area, built homes along Walling Creek in 1771. As Royal and Proprietary oppressions became more distasteful, many new settlers came into the area from eastern and piedmont Carolina, the Shenandoah Valley of Virginia, and from such northern states as Pennsylvania, Maryland, and New York. Many current residents of the county are descendants of these early families.

After the Revolutionary War, the territory was claimed at various times by Rowan County, Surry County, Wilkes County and the State of Franklin, which existed from 1784 to 1789. In 1799, Ashe became a separate county covering 977 square miles and included all of what is now Ashe, Alleghany and Watauga Counties. The General Assembly of 1858-59 sliced 230 square miles off the eastern side of Ashe County and created the new county of Alleghany.

Jefferson was founded and established as the County Seat in 1800. After the railroad came to West Jefferson, the old Jefferson declined to the status of a residential town. Even today West Jefferson remains the commercial center of the County.

*Sources: Fletcher, Arthur L., Ashe County, History, Ashe County Research Inc., Jefferson, North Carolina, 1963

Sharpe, Bill, A New Geography of North Carolina (published: Sharpe Publishing Co., Raleigh, North Carolina) 7th Printing, 1962

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PHYSICAL CHARACTERISTICS

CLIMATE

Ashe County enjoys a temperate climate with a mean annual temperature of 53.1 degrees, although there are a number of temperature corridors in which the temperature average 15-20 degrees above the norm. Average temperature in July ranges from 68-to-72 degrees; and in January the temperature ranges from 36-to-38 degrees. Average annual precipitation ranges from 50 to 54 inches; and the year-round humidity is fairly stable at 60 to 70 per cent. Of course, differences in elevations, exposure, slope and air currents may cause large changes in temperature, precipitation and wind over short distances. Ashe has a frost-free growing period of five to five and one-half months (150-170 days) and the average annual snowfall ranges from 16-32 inches.

SLOPE

As was mentioned earlier, Ashe is located in the mountainous Appalachian Region, where the average elevation is 3,025 feet above mean sea level. In Ashe County, Three Top Mountain, Phoenix Mountain, and Mount Jefferson have elevations of 5,130 feet, 4,890 feet, and 4,683 feet respectively. An elevation of 3,000 feet is exhibited along South Fork of the New River as it enters Ashe County.

The hilly terrain of Ashe County has a surface gradient variation from 0 to 65 per cent. Generally, slopes range from 20 to 50 per cent, except in the intermittent vallies.

Table 1. Slope Standards for Development

0 - 10% slope -	Excellent sites for urban development
10 - 15% slope -	Development should be restricted to low density residential development.
15% + slope -	Restriction on any urban development, or at lease, restrict development to low density residential development

Steep slopes tend to compound limitations caused by other soil characteristics such as shrink-swell potential, stoniness, percolation rates and supporting capacity.

Based on these standards, it is apparent that there is limited terrain in Ashe County for urban development. Most of the land under 15% slope is along the streams and in the Jefferson-West Jefferson area.

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SOIL SURVEY

In a soil investigation by the engineering firm Hensley-Schmidt* Ashe County was divided into three broad soil classifications (for more details, see Appendix 1.).

Soils of Intermountain Valleys

Soils occurring in the intermountain valley areas are adaptable to any reasonable land use. Agriculture uses are limited to pasture land for livestock in most cases. Excavation is possible with limited blasting for most underground utilities. Also cut and fill construction for access routes can be accomplished at moderate cost. Bearing stability for undisturbed residential soil mass is good. In most cases high unit loadings are practical for local soil exposures. Residential use is unrestricted. Other uses such as recreation and forest growing are feasible for even the rough stoney land of these areas.

Soils of the High Ridges

These soils are found primarily in the northwest section of the County. Land uses for this area are more restricted than those for soils of the intermountain valleys. Agriculture is limited to small patch type farming for both row and pasture cropping. The only really gentle slopes are on mountain tops and along crests of dividing ridges. Timber cropping is practical whenever access can be provided economically. The area offers a good source for dimension and crush stone. Recreational uses of the land are good due to its wild and undeveloped nature. Residential development potential is limited to low density housing, particularly second home development.

Soils of Stream Valleys

These soils exist in narrow bands along major creeks and secondary or tertiary streams. These are very important since they provide the largest source of relatively gentle sloping land at low elevations. Land use of these soil types has been extensive in the populated portions of the County. Most of the stream valleys in the vicinity of Jefferson-West Jefferson have been developed for residential and commercial development. Important areas still remain in agricultural uses in the deep valleys of the south and north fork of New River.

*Comprehensive Plan for Development of Water & Sewerage Facilities, Ashe County, N. C., Hensley-Schmidt, Inc., Nov. 1968

1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science.

2. The second part of the paper is devoted to a detailed discussion of the various theories of the origin of life. It is shown that the most plausible theory is that of the spontaneous generation of life from non-living matter.

3. The third part of the paper is devoted to a discussion of the evidence in favor of the spontaneous generation of life. It is shown that the evidence is very strong and that the spontaneous generation of life is a fact.

4. The fourth part of the paper is devoted to a discussion of the various objections to the spontaneous generation of life. It is shown that the objections are all unavailing and that the spontaneous generation of life is a fact.

5. The fifth part of the paper is devoted to a discussion of the various applications of the theory of the spontaneous generation of life. It is shown that the theory has many important applications in the history of science.

6. The sixth part of the paper is devoted to a discussion of the various conclusions that can be drawn from the theory of the spontaneous generation of life. It is shown that the theory has many important conclusions.

7. The seventh part of the paper is devoted to a discussion of the various questions that remain to be solved. It is shown that there are many important questions that remain to be solved.

8. The eighth part of the paper is devoted to a discussion of the various questions that remain to be solved. It is shown that there are many important questions that remain to be solved.

9. The ninth part of the paper is devoted to a discussion of the various questions that remain to be solved. It is shown that there are many important questions that remain to be solved.

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15. The fifteenth part of the paper is devoted to a discussion of the various questions that remain to be solved. It is shown that there are many important questions that remain to be solved.

WATER RESOURCES

95 Per Cent of Ashe County lies within the New River Basin. The main streams and tributaries of the New River's North Fork and the South Fork form the stream system of the County. Streams have steep but fairly constant slopes and rather well-defined channels resulting in less flooding of low lying areas. Many streams are produced by springs in mountain top wooded areas; these springs assist stream flow during low rainfall periods.

Stream Classification

The Water and Air Quality Control Committee of the Division of Environmental Management has classified all streams within the County "C", except the South Fork of the New River from N. C. Highway 163 Bridge to N. C. Highway 16 Bridge which has been classified "A-II". The "C" classification indicates that the water is suitable for boating, wading, and any other uses requiring water of lower quality. The "A-II" classification, the highest classification of quality, indicates that the water is a suitable source of supply for drinking, culinary, or food processing purposes after approved treatment equal to coagulation, sedimentation, filtration, and disinfection, etc., and any other usage requiring waters of lower quality. Naked Creek, from a point 2.0 miles above South Fork New River to South Fork New River, has a trout water classification designation. Streams which are designated Trout Waters are required to maintain a minimum of dissolved oxygen content of not less than 6.0 mg/l and a temperature not to exceed 68° F.

The foregoing discussion of stream classifications indicates that streams in Ashe County have potential recreational uses for residents as well as visitors, if measures are taken to assure their protection.

RAW MATERIALS

Ashe County contains a wide variety of metals and industrial minerals although sand and gravel have been the only mineral products that have been exploited in recent years. The Mineral Resources Division, Geologic Branch, T.V.A., reports that while the County has never been prospected, there are substantial indications that would justify a thorough mineral resource study.

In the late 19th century, copper mining was conducted at Orb Knob and at Copper Knob in the Gap Creek Section. This copper operation was abandoned with the outbreak of World War I. It appears that Ashe County really has a rich possibility in the copper deposits. Exhaustive geo-physical tests show the occurrence and character are quite similar to the Ducktown (Tennessee) deposits, which are being mined profitably with a much smaller content of copper. The Orb Knob ore

contains also gold, silver, cobalt and nickel, and a mining engineer in 1953 said that these could be recovered in the refining process. There has been some iron ore processed in the Helton Creek area, but such mining operations have been inoperative for many years.

Between 1940 and 1950 there was a general decline in population throughout the mountain region (see Table 2). Region 2, one of North Carolina's seven counties which comprise the mountain area, experienced a population decline of 1.3 per cent. This is population between 1940-50 and an even larger decline between 1950-60 of 1.9 per cent. Ashe County reflected this overall decline. Between 1940 and 1950 the population declined by 1.3% and by 1.9% during the following decade. The 1950's saw a reversal in this trend in the mountain region as a whole. Region 2 increased its population between 1950 and 1970.

*Sharpe, Bill, A New Geography of North Carolina (Pub. Sharpe Pub. Co. Raleigh, N. C.) 7th Printing, 1962

While the 1950's saw a change in the population trend for the region and the forest surrounding it, Ashe still had a declining population, although at a decreasing rate. Ashe had a 1.0 per cent population reduction between 1950 and 1970 (see Figure 2).

Table 2. Population Growth and Per Cent Change

	1940	1950	1940-50 Per Cent Change	1950	1950-60 Per Cent Change	1950	1950-70 Per Cent Change
North Carolina	3,771,429	4,781,927	26.75	4,781,927	27.15	5,081,739	11.32
Ashe	22,606	21,877	-3.2	19,768	-14.6	19,371	-1.9
Alleghany	8,841	8,135	-7.9	7,126	-14.2	6,114	-14.2
Watauga	18,114	18,742	3.5	17,126	-8.6	23,408	37.3
Wilkes	43,007	43,883	2.0	43,339	-1.5	48,320	11.5
Region 2 ^a	128,883	128,212	-0.5	120,723	-6.2	138,344	15.0

Source: U. S. Census of Population, 1940 - 1970

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DEMOGRAPHIC CHARACTERISTICS

PRESENT POPULATION SIZE

Between 1940 and 1960 there was a general decline in population throughout the mountain region (see Table II). Region D, one of North Carolina's seventeen multi-county planning Regions that contains seven counties in the northwestern part of the State, had a 0.3 per cent drop in population between 1940-50 and an even larger decline between 1950-60 of 5.9 per cent. Ashe County reflected this overall decline. Between 1940 and 1950 the population declined by 3.5% and by 9.6% during the following decade. The 1960's saw a reversal in this trend in the mountain region as a whole. Region D increased its population between 1960 and 1970 by 7.0%. The three counties contiguous to Ashe had population gains during this period. Alleghany had a 5.2 per cent increase; Wilkes had a 9.4 per cent increase; and Watauga had a substantial increase of 33.5 per cent. While the 1960's saw a change in the population trends for the region and the three surrounding counties, Ashe still had a declining population, although at a decreasing rate. Ashe had a 1.0 per cent population reduction between 1960 and 1970 (see Figure 2).

Table 2. Population Count and Per Cent Change

	1940	1950	Per Cent Change 1940-50	1960	Per Cent Change 1950-60	1970	Per Cent Change 1960-70
North Carolina	3,571,623	4,061,929	13.7%	4,556,155	12.1%	5,081,059	11.5%
Ashe	22,664	21,878	-3.5	19,768	-9.6	19,571	-1.0
Alleghany	8,341	8,155	-2.2	7,734	-5.2	8,134	5.2
Watauga	18,114	18,342	1.3	17,529	-4.4	23,404	33.5
Wilkes	43,003	43,003	5.2	45,269	0.1	49,524	9.4
Region D ¹	138,865	138,419	-0.3	130,223	-5.9	139,364	7.0

Source: U. S. Census of Population, 1940 - 1970

The Commission has the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the proposed amendment to the charter of the City of New York, and in reply to inform you that the same has been referred to the Committee on the subject, and that the same is now under consideration.

The Commission has the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the proposed amendment to the charter of the City of New York, and in reply to inform you that the same has been referred to the Committee on the subject, and that the same is now under consideration.

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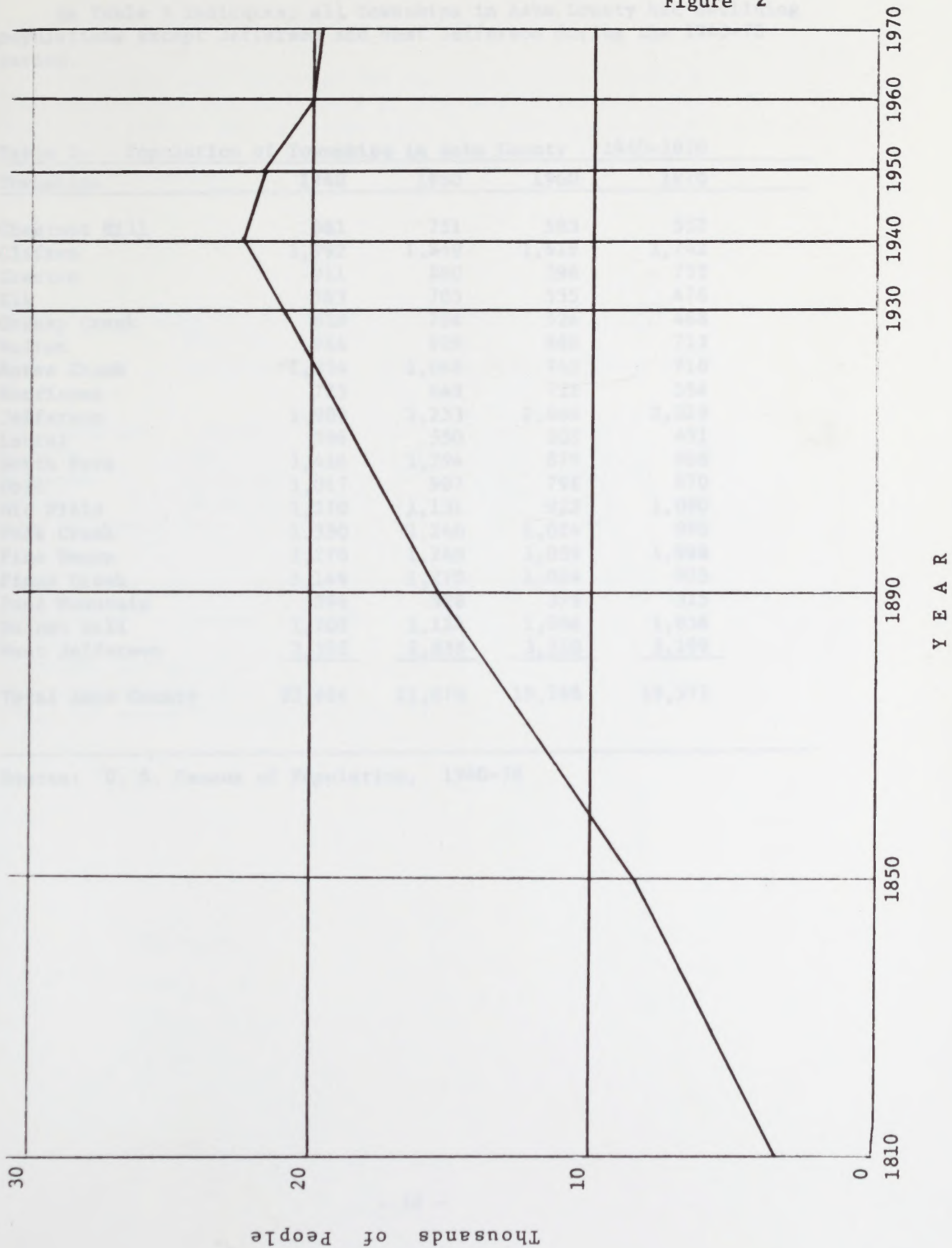
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ASHE COUNTY, NORTH CAROLINA POPULATION GROWTH 1810 - 1970

Figure 2



As Table 3 indicates, all townships in Ashe County had declining populations except Jefferson and West Jefferson during the 1940-70 period.

Table 3. Population of Townships in Ashe County 1940-1970

Townships	1940	1950	1960	1970
Chestnut Hill	881	751	583	552
Clifton	1,992	1,849	1,619	1,742
Creston	911	880	596	732
Elk	783	705	555	476
Grassy Creek	828	704	524	468
Helton	964	929	868	713
Horse Creek	1,354	1,048	745	718
Hurricane	725	649	722	554
Jefferson	1,989	2,233	2,660	2,829
Laurel	596	550	505	491
North Fork	1,416	1,294	879	808
Obid	1,017	907	798	870
Old Field	1,270	1,131	922	1,090
Peak Creek	1,350	1,248	1,024	985
Pine Swamp	1,270	1,240	1,039	1,098
Piney Creek	1,149	1,270	1,034	925
Pond Mountain	594	528	379	315
Walnut Hill	1,203	1,124	1,006	1,036
West Jefferson	2,372	2,838	3,310	3,199
Total Ashe County	22,664	21,878	19,768	19,571

Source: U. S. Census of Population, 1940-70



Jefferson, West Jefferson and the unincorporated town of Warrensville were the only towns to have population increases during the 1940-70 period. (See Table 4). Todd and Lansing had sizeable losses. There was a 44% decline for Todd; a 25% decline for Lansing.

Table 4. Population of Towns in Ashe County 1940-1970

Town	Township Location	1940	1950	1960	1970
Warrensville*	Clifton	150	120	116	224
Todd*	Elk	100	52	32	56
Jefferson	Jefferson	304	359	814***	943
Lansing	Piney Creek	274	**	278	206
West Jefferson	West Jefferson	883	871	1,000	889

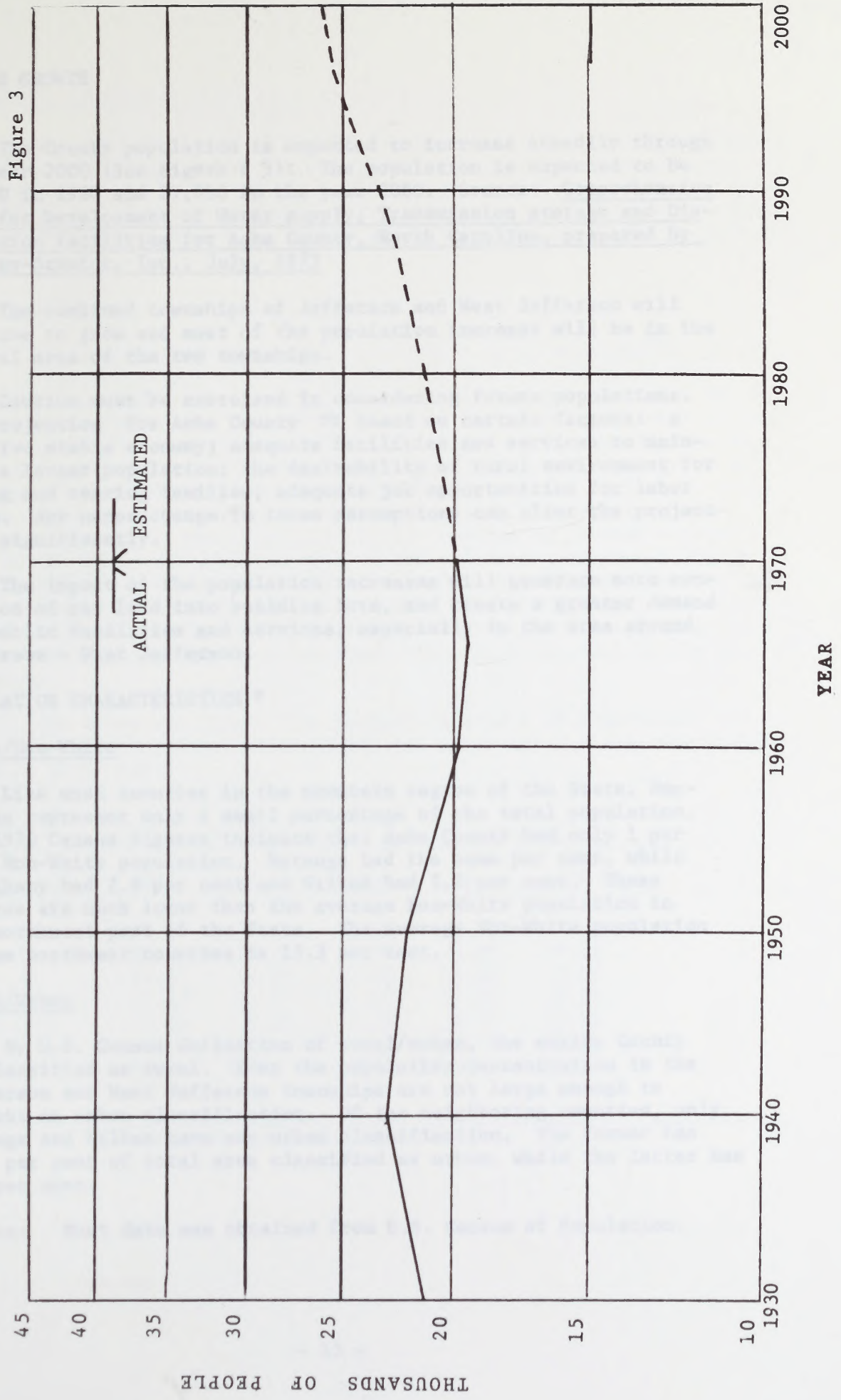
Source: U. S. Census, 1940-70

* Not incorporated

** Unincorporated in 1950

*** Influenced by annexation in 1957-58

FUTURE POPULATION
IN
ASHE COUNTY



GENERAL COMMENTS

IN

GENERAL LOGS

FUTURE GROWTH

The County population is expected to increase steadily through the year 2000 (See Figure # 3). The population is expected to be 21,700 in 1980 and 27,000 in the year 2000. Source: Comprehensive Plan for Development of Water Supply, Transmission storage and Distribution Facilities for Ashe County, North Carolina, prepared by Hensley-Schmidt, Inc., July, 1973

The combined townships of Jefferson and West Jefferson will continue to grow and most of the population increase will be in the general area of the two townships.

Caution must be exercised in considering future populations. The projection for Ashe County is based on certain factors: a relative stable economy; adequate facilities and services to maintain a larger population; the desirability of rural environment for living and rearing families; adequate job opportunities for labor force. Any major change in these assumptions can alter the projections significantly.

The impact of the population increases will generate more conversion of raw land into building lots, and create a greater demand for public facilities and services, especially in the area around Jefferson - West Jefferson.

POPULATION CHARACTERISTICS *

White/Non-White

Like most counties in the mountain region of the State, Non-Whites represent only a small percentage of the total population. The 1970 Census figures indicate that Ashe County had only 1 per cent Non-White population. Watauga had the same per cent, while Alleghany had 2.9 per cent and Wilkes had 5.1 per cent. These figures are much lower than the average Non-White population in the northwest part of the State. The average Non-White population in the northwest counties is 13.3 per cent.

Rural/Urban

By U.S. Census definition of rural/urban, the entire County is classified as rural. Even the population concentration in the Jefferson and West Jefferson townships are not large enough to warrant an urban classification. Of the neighboring counties, only Watauga and Wilkes have any urban classification. The former has 37.4 per cent of total area classified as urban, while the latter has 6.8 per cent.

* Source: Most data was obtained from U.S. Census of Population.

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Population Density

The rural character of the County is reflected in the low population density of the County. Ashe County has only 45.9 persons/square mile, which is the lowest in the northwestern part of the State, except for Alleghany, with a 36.2 figure. This figure is particularly low when compared with Forsyth County, with a population density of 512.2 persons/square mile.

Age Distribution

As Table 6 indicates, there has been a continuous decline in the under thirty groups and a continuous rise in the over 65 group during the 1930-70 period. The only exception was the 9.0 per cent rise in the 10-19 group between 1960 and 1970. This age distribution is even clearer when examined in perspective. (See Table 7) Census figures for group between 0-17 are very similar for Ashe County, the average of all counties in the northwestern part of the State, and the State as a whole. In the 18-44 group the story is different. Census figures indicate a 37.7 per cent of all the residents of the counties in the northwestern part of the State and 37.6 per cent of the population statewide are in the group between 18-44, while Ashe County has only 33.0 per cent in the same bracket. The same trends are evident in the 65+ group. The counties in the northwest average 8.1 and the State has 8.1 per cent average in this group. Ashe County, on the other hand, has a 12.1 per cent in the over 65 age group.

The facts are clear. The younger residents of Ashe County are migrating to other areas, particularly the large urban areas like Winston-Salem or Charlotte.

Table 6. Ashe County Population - Age Distribution

Age Groups	1930	1940	1950	1960	1970
0 - 9	27.8%	23.7%	23.9%	20.5%	17.1%
10 - 19	24.3%	23.7%	20.7%	20.6%	29.0%
20 - 29	14.2%	15.3%	13.4%	11.5%	12.9%
30 - 64	28.2%	31.1%	33.9%	37.2%	39.0%
65 & Over	5.5%	6.2%	8.1%	10.2%	12.0%
Total	100%	100%	100%	100%	100%

Source: U. S. Census of Population 1930 - 70

Population Density

The two main reasons for the low population density in the interior of the continent are the lack of water and the lack of fertile soil. The population is concentrated along the coast and in the river valleys.

Age Structure

The age structure of the population is characterized by a high proportion of young people. This is due to the high birth rate and the low death rate. The population is growing rapidly, and this will lead to a further increase in the proportion of young people in the future.

The population is also characterized by a high proportion of people living in rural areas. This is due to the fact that most of the population is engaged in agriculture.

Conclusion

The population of the country is characterized by a low density, a high proportion of young people, and a high proportion of people living in rural areas. These characteristics are the result of the country's geographical location and its economic structure.

Table 7. Age Distribution Comparison

Age Bracket	North Carolina	Ashe County	Northwestern Counties
0 - 17	34.7%	33.0%	33.2%
18 - 44	37.6%	33.0%	37.7%
45 - 64	19.6%	21.6%	20.2%

Source: U. S. Census of population, 1970

Educational Level

The population of Ashe County is becoming more educated.

Median School Years Completed in Ashe County

1940	1950	1960	1970
6.85	7.20	7.65	8.75

Source: U. S. Census of population, 1940-70

In 1940 the median school years completed was 6.85 years. In other words, half the residents in the County had less than a seventh grade education. By 1970 the median school years completed had risen to 8.75.

As Table 8 indicates, there has been a sizeable increase in the number of students completing high school. In 1940, only five per cent of the males under 25 had completed high school. By 1970, this figure had risen to over 15 per cent. There had been a corresponding increase in the female group under 25 years of age. In 1940 the figure for high school graduates was 5 per cent. Thirty years later the figure had risen to 22 per cent.

The 30 year period between 1940 and 1970 has also seen many more students go on to higher educational institutions. Although the County does not have any community or four-year college located within its boundary, it is easily accessible to Appalachian State University in Boone, and to Wilkes Community College, which offers courses in Ashe County.

Table 8. Ashe County Educational Levels

	1940	1950	1960	1970
Males, 25 years of Age and Over	4,997	5,270	5,093	5,344
<u>Number of Years Completed</u>				
Elementary: 1 - 4	1,181	1,090	945	361
5 & 6	1,067	1,125	1,019	---
7	NA	1,250	953	1,768
8	NA	515	473	674
High School: 1 - 3	318	560	593	930
4	243(5%)*	220(4%)*	646(12%)*	812(15%)*
College: 1 - 3	117	135	133	180
4	73	115	163	207

Females, 25 Years of Age and Over	4,988	5,215	5,385	5,874
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Number of Years Completed

Elementary: 1 - 4	1,074	950	603	459
5 & 6	1,112	1,090	918	---
7	NA	1,260	1,070	1,626
8	NA	445	656	667
High School: 1 - 3	540	660	712	1,390
4	263(5%)*	330(6%)*	876(16%)*	1,294(22%)*
College: 1 - 3	158	160	214	212
4	67	NA	117	192

*Percent of Total Population Completing High School

Source: U.S. Census of population, 1940-70

Income

Income levels have been on the rise in Ashe County. As the following figures indicate, per capita income has more than doubled since 1958.

Per Capita Income

1958	\$ 911
1962	1,179
1966	1,468
1970	2,456

Source: U. S. Census of Population, 1970

Mean values of the following variables

Standard deviation

Range

Minimum

Maximum

Frequency

Percentage

Mean

Standard deviation

Range

Minimum

Maximum

Frequency

Percentage

Mean

Standard deviation

Range

Median household disposable income also reflects the rising income levels in the County.* In 1971 disposable income was \$4,180. By 1972 the figure had risen to \$4,412, which is a 5.6 per cent rise.

Not only has there been a rise in income, there has also been some economic mobility upward in recent years. The following figures indicate this trend:

Percentage Distribution of Households by Cash Income Distribution			
	1971	1972	% Change
0--2,999	37.4	35.7	-4.5
3,000--4,999	19.7	19.3	-2.0
5,000--7,999	20.4	20.6	1.0
8,000--9,999	8.8	9.3	5.7
10,000--Over	13.7	15.1	10.2

Source: County Development Information for Ashe Co. N.C.;
Economic Development Center, Western Carolina
University, Cullowhee, N. C., 1974

There has been a decline in the percentage of population in the lower economic groups. At the same time, there has been a rise in percentage in the upper three economic groups, particularly the highest one. Table 9 gives a more detailed examination of income distribution.

Table 9. Median Family Income 1960 - 1970

Income Group	Number of Families 1960	Per Cent of Total Families	Number of Families 1970	Per Cent of Total Families
Under - \$1,000	1,117	23.0	278	5.1
1,000 - 1,999	1,095	22.5	717	13.2
2,000 - 2,999	751	15.4	494	9.1
3,000 - 3,999	620	12.7	613	11.3
4,000 - 4,999	425	8.7	469	8.6
5,000 - 5,999	318	6.5	583	10.7
6,000 - 6,999	175	3.6	493	9.0
7,000 - 7,999	132	2.7	404	7.4
8,000 - 8,999	91	1.9	342	6.3
9,000 - 9,999	44	0.9	275	5.0
10,000 - 14,999	46	1.0	543	10.0
15,000 - 24,999	42	0.9	180	3.3
25,000 - Over	12	0.2	27	0.4

Source: U. S. Census of Population, 1960 - 70

*Disposable income means income after deductions for taxes, social security, etc.

Section 101 of the Internal Revenue Code
Income tax on the estate of a decedent who was
dying in 1917. The estate of a decedent who
died in 1917 is subject to the income tax
on the estate of a decedent who was
dying in 1917.

Section 102 of the Internal Revenue Code
Income tax on the estate of a decedent who was
dying in 1917. The estate of a decedent who
died in 1917 is subject to the income tax
on the estate of a decedent who was
dying in 1917.

Section 103 of the Internal Revenue Code
Income tax on the estate of a decedent who was
dying in 1917. The estate of a decedent who
died in 1917 is subject to the income tax
on the estate of a decedent who was
dying in 1917.

Section 104 of the Internal Revenue Code
Income tax on the estate of a decedent who was
dying in 1917. The estate of a decedent who
died in 1917 is subject to the income tax
on the estate of a decedent who was
dying in 1917.

Table 10. Per Capita Personal Income

	1950	1960	1970
United States	\$1,496	\$2,770	\$3,933
North Carolina	1,037	2,075	3,218
Counties:			
Ashe	918	1,356	1,997
Alleghany	580	1,465	2,295
Wilkes	623	1,634	2,682
Watauga	551	1,578	2,365

Source: U. S. Census of Population, 1950 - 70

Although there have been increases in per capita income and some upward economic mobility, the County still has a low income level when compared to other areas. Ashe County is substantially lower than the national or state average in per capita income. All three neighboring counties have larger per capita income levels than Ashe County does. 31.1 per cent of all citizens in Ashe County have incomes below the poverty level. Statewide there is only 20.3% in this category. The percentage of senior citizens--65 and over--whose income falls under the poverty level is 21% in Ashe County, while statewide it is 15.7%.

	1940	1950	1960	1970	1975	1979
Agriculture	44	31	21	18	21	18
Manufacturing	5	8	20	22	24	25
Non-manufacturing	17	41	77	44	33	30
Other	19	9	12	13	18	17

Source: U.S. Census Bureau of Economic Activity Statistics

In these figures, agriculture, manufacturing, and service types of employment have been the big sectors in the economy which reflects the national trend in employment. The big sector has been agriculture. In 1940, 44 per cent of the employment in the County was in agriculture related jobs. By 1979 the figure had dropped to only 18 per cent. It would continue its decline through 1990.

Non-manufacturing includes construction, transportation, communication, public utilities, trade, finance, services and government.

ECONOMY

EMPLOYMENT

Total Employment in Ashe County 1940-70

1940	1950	1960	1965	1970	1972	(est) 1975
5,371	6,920	6,185	6,390	7,050	7,150	7,370

Source: U. S. Census; N. C. Bureau of Employment Security Commission

There has been a gradual increase in the total work force in Ashe County during the 1940 - 1972 period, with estimates indicating a continuation of the trend through 1975.

The level of unemployment within the County has consistently been higher than the state average. In 1962 the state unemployment level was at 5.3%; in 1970 it was 3.8% and in 1971 it was 3.9%. In the same years unemployment was 6.7%, 5.3% and 5.4% respectively for Ashe County.

Employment Distribution

Table 11. Percentage of Employment Distribution (estimate)

	1940	1950	1960	1965	1970	1972	1975
Agriculture	68	63	31	29	23	21	18
Manufacturing	5	8	30	33	34	34	35
Non-Manufacturing*	17	21	27	26	30	29	30
Other	10	8	12	12	13	16	17

Source: U.S. Census; Bureau of Employment Security Commission

As these figures indicate, manufacturing and service types of employment have been the big gainers in Ashe County---which reflects the national trend in employment. The big loser has been agriculture. In 1940, 68 per cent of the employment in the County was in agriculture related jobs. By 1972 the figure had dropped to only 21 per cent. It should continue its decline through 1975.

*Non-Manufacturing includes construction, transportation, communication, public utilities, trade, finance, services and government.

Manufacturing

As indicated earlier, manufacturing is increasing its role in the economy of Ashe County. In 1940 only 4 per cent of the employed residents were involved in manufacturing related employment. By 1972 manufacturing occupations represented 34 per cent of the local employment force; by 1975 it is estimated to represent 35 per cent of the work force.

Table 12. Existing Industry

Name	Location	Products	Employment	
			Male	Female
Penry	Grassy Creek	Apparel	51	-
Kno Knitting Co.	Creaton	cotton knit	12	0
Ashley Knitting Co.	Jefferson	warp knitting	8	7
Appomattox Mfg. Co.	Jefferson	dresses	20	180
Hanes Corporation	Jefferson	men's t-shirts	35	470
Kraft Foods	Jefferson	Cheese	25	2
Sprague Elec. Co.	Lansing	Elec. Capacit.	300	500
Buffalo Frame Co.	W. Jefferson	furn. frames	11	0
Blue Ridge Lumber	W. Jefferson	hardwood/lumb.	55	1
Jefferson Wood Pro.	W. Jefferson	furniture	105	2
Phenix Chair Co.	W. Jefferson,	dining rm. chairs	382	7
Southern Devices	W. Jefferson	elec. fixt.	90	210
Weaver Mfg. Co.	W. Jefferson	furn. frames	60	2
Industrial Fabricators	W. Jefferson	Plastics, metal wk., warp knitting	51	-

Source: Ashe County Chamber of Commerce, 1973

Although an increasing manufacturing sector has improved the local economy, a close examination of Table 12 indicates some problem areas. First, the types of industries located in Ashe County utilize a large percentage of female labor. Certainly job opportunities for women are good, but the problem is that many males must go outside the County to find employment. Either men must move their families to employment opportunities elsewhere, or be faced with long commuting trips daily. Both alternatives are undesirable. Second, the County needs more diversification in types of industry, particularly industries that utilize more skilled labor. This would provide a more balance economy and help raise wages.

Non-Manufacturing

The non-manufacturing sector has steadily grown in the past 30 years in Ashe County. As manufacturing and agriculture employment provide more disposable income, there will be an increasing demand for goods and services. As this demand grows, more service-type employment will be created.

Gross retail sales (fiscal year 1970-71) in Ashe County were \$26.4 million. Although this sales volume was larger than in Alleghany (\$14.7 million), it was smaller than comparable figures in Watauga and Wilkes, with \$53.3 million and \$100.8 million respectively. The retail sales volume for Boone alone was \$35.9 million. (See Table 13.).

Ashe County has a gross retail sales per capita of \$1,348, which is less than the three surrounding counties. (Watauga has \$2,278; Wilkes has \$2,034; and Alleghany has \$1,809). This per capita gross sales figure is substantially lower than the state average of \$2,493.

Effective buying income per capita was only \$1,909.* All three surrounding North Carolina counties had higher figures. Alleghany was \$2,294; Wilkes was \$2,233; and Watauga was \$2,157. The figure was also substantially lower than the state average of \$2,774 per capita.

The ratio of gross retail sales to effective buying income expresses the ratio of sales for the number of dollars available for expenditures by each person in the County. Any figure less than "1" indicates that for every dollar of disposable income, less than one dollar was spent in the County. Any figure greater than "1" indicates that for every dollar of disposable income, more than one dollar was spent in the County. In other words, people from outside the County purchased goods and services in the County. As Table 13 indicates, only 71 cents of every dollar of disposable income was spent in Ashe County. This figure is the lowest among the four counties in the northwest corner of the State. Expressing this data another way, nearly 30 cents of every dollar of disposable income was spent outside the County.

*Effective buying income is defined as all personal income--minus federal, state and local taxes. This includes: (1) net cash income, (2) income in kind--payments in non-cash goods and services, such as food and housing, and (3) imputed income--food consumed on the farm that produced it and imputed rent of owner-occupied housing. Effective buying income is equivalent to the Government's "disposable personal income", is a bulk measurement of potential, and indicates general ability to pay.

Table 13. Retail Sales Data

County(City)	Gross Retail Sales (Fy 1970-1971)* (\$ million)	Gross Retail Sales Per Capita \$	Effective Buying Income per Capita \$	Ratio of Sales to Buying Income (per capita)
Alleghany	14.7	1809	2294	0.79
Ashe	26.4	1348	1909	0.71
Watauga (Boone)**	53.3 (35.9)	2278 (4106)	2157 -	1.06 -
Wilkes	100.8	2034	2233	0.91
North Carolina (Source)	12669.2 (1)	2493 (1)	2774 (2)	0.90 (2)

*Total taxable and non taxable sales (Fy = Fiscal Year).

** Estimate for year based upon data available for only seven months

Sources: (1) North Carolina Dept. of Revenue, Sales & Use Tax Div.

(2) 1971 Survey of Buying Power, Sales Management, Inc.,
Vol. 107, No. 2, July 10, 1971.

A particular aspect of the service sector of Ashe County's economy is tourism. With its natural beauty and proximity to the Blue Ridge Parkway, Ashe County should be able to develop its tourist business. It has done so to some extent. In 1963 travelers' expenditures reached \$844,000. By 1972 this figure had climbed to \$1,560,000.

Agriculture

Table 14. Farm Data

Year	Acres of Harvested and idea cropland	Farm Population	Estimates of Farm Income
1960	32,585	13,717	NA
1965	29,055	11,191	\$10,063,844
1970	25,947	10,541	\$14,478,806
1971	24,169	9,387	\$11,790,275

Source: N. C. State Government Statistical Abstract, 1970

Agriculture is playing a decreasing role in the local economy. In 1940, 68 per cent of the work force was employed in agriculture related occupations. By 1970, the figure had dropped to 23 per cent.

The figures in Table 14 substantiate this trend. In 1960 there were 13,717 people working on farms. By 1971 this figure had been reduced to 9,387. Although farm population has declined, farm income is high. Of course, the rising cost of living has reduced the purchasing power of these higher income levels.

This decline in the agricultural sector of the economy can be attributed to several causes: (1) Non-agriculture jobs are becoming more attractive since they can offer more money and less working hours than agriculture employment. (2) High operating cost has eliminated many small farmers, who cannot compete with larger operations.

Table 15. Number of Farms by Types in Ashe County

	1950	1960	1964	1969
Field crops	515	462	447	
Cash grain	25	5	6	2
Tobacco	450	425	432	76
Other field crops	---	32	9	1
Vegetable	75	40	28	9
Poultry	5	30	65	67
Dairy	210	135	150	51
Livestock	267	302	272	210
General	200	145	160	48
Miscellaneous	2,139	1,926	1,603	18
Total Farms	3,139	3,040	2,725	

Source: U. S. Census of Agriculture, 1964, 1969

Although poultry farms have increased in number from five in 1950 to 67 in 1969, farms generally have been on the decline during the past thirty years. Dairy and livestock still lead the list in the types of farms found in Ashe County. Tobacco farms have been reduced tremendously since 1950. At that time there were 450 tobacco farms in the County. By 1969 there were only 76 reporting in this classification.

Table 16. Land Use: Farms

	1960	1964	1969
All Farms	219,688	199,463	171,399
Average Size of Farm	64.2	73.2	74.4

Source: U. S. Census of Agriculture, 1964, 1969

PUBLIC FACILITIES

TRANSPORTATION

Highways

Certainly the major mode of transportation within the County is the public highway system. The County contains 26 miles of highway classified as minor arterial (U.S. 221). The County has 71 miles of major collector roadways (State highway 88, 194, and 16). The highest daily traffic flow is on U.S. 221 in the Jefferson-West Jefferson area. The daily traffic flow reaches a high of 6,800 vehicles per day. Traffic volume decreases on U.S. 221 East and South from the Jefferson-West Jefferson area. A section of the Blue Ridge Parkway passes through the lower section of the county.

Railroads

A branch line of the Norfolk and Western Railroad extends from the Town of West Jefferson to Abington, Virginia. This is the only rail facility in the County. It is strictly utilized for freight hauling.

Airports

The nearest air transportation facilities are the Hickory and the Winston-Salem airports. A County air strip is currently under construction that will accommodate smaller aircraft.

Bus Service

There is no public bus transportation systems serving Ashe County.

Office of Economic Opportunity (OEO) Vehicles

OEO in Ashe County provide transportation for disadvantaged, elderly and handicapped. The Blue Ridge Opportunity Commission has five vehicles, including a truck and van.

Electricity

The County is provided with electrical energy by the Blue Ridge Electric Membership Corporation. Electricity is available in all parts of the county with sufficient capacity to meet residential and industrial expansion.

WATER & SEWER FACILITIES*

Municipal Water Systems

Lansing. Lansing operates a small sub-standard municipal water system. Water is supplied by two wells. There is no storage facility. The marginal supply and distribution facilities are inadequate for fire protection. Many residents continue using private wells.

West Jefferson. The Town's water supply comes from two wells and mountain springs. Generally the springs located on the western slope of Mt. Jefferson provide an adequate water supply during the wet season. These springs, however, must be supplemented seasonally with the two wells. During certain seasons, when storage reservoirs are low, fire protection is jeopardized. The main business, industrial district, and the older west central section of town generally are covered adequately by six and eight inch mains and fire hydrants. The newer developed areas to the southwest, northwest and northeast are served by lines two inches and smaller in size. These provide only marginal service to the users in these areas and are totally inadequate for fire protection, pressure and flow capacity of the customers served. Phoenix Chair Company, which uses 25% of the Town's water supply has its own well to supplement the Town's supply of water. The Jefferson Wood Products Company in the southwest section of town has no fire protection. Due to the occasional inadequacy of Fire Protection, the large investments in the industrial and commercial facilities of West Jefferson are extremely vulnerable to damage by fire.

Jefferson. The County Seat, Jefferson, is served by a municipal and several private water systems. The municipal system is supplied from a well and mountain springs that are located in three areas. The flow from several small springs in each area is collected in common reservoirs. Flows from these springs are supplemented by the well during peak demand periods. Jefferson's water system was expanded and updated in the early 1970's. The source of supply are four (4) wells. A 200,000 gallon reservoir is located in the S.E. section of the Town. The private water systems will eventually be phased out and the municipal system will cover the entire town. As in West Jefferson the wells will not meet ultimate water supply requirements of the community.

Other Areas of the County. There is no service by any municipal water system beyond the town limits of Jefferson, West Jefferson or Lansing. Mountain springs and individual wells are used in areas outside these towns. Group use of a common spring supply by a number of homes or other establishments is prevalent throughout the County. Separate water supplies are provided for all industrial and schools outside Jefferson and West Jefferson. The Phoenix Chair Company in West Jefferson has a private well which supplements water purchased from the town.

*Source: Hensley-Schmidt, Comprehensive Water and Sewer Study for Ashe County, 1968, 1972

Municipal Sewerage Systems

West Jefferson. The Town of West Jefferson has a municipal sewerage system. It accomodates most of the developed areas within the town's corporate limits. A modern treatment plant was constructed in 1965. The plant is designed to treat the organic loading from an equivalent sewered population of 3,640 persons. The 1970 population of West Jefferson was 889. In other words, the sewer plant is operating at only 25% of capacity.

Jefferson. The sewer system for Jefferson, which was constructed in 1969, provides sewerage for the central part of the town, for all large water users and for most areas where septic tanks have proved unsatisfactory. Initially sewerage is available to an estimated resident sewered population of 525 persons, or 56% of the 1970 population. Although all areas of the town are not served by the system, it can be expanded when funds or a density level justify it rush action. The Town's waste water treatment plant is on a site 2.25 miles downstream from the town's eastern corporate boundary. Discharge of the plant effluent is into Naked Creek. The facilities are planned as part of a regional system, which will provide sewerage facilities for East Jefferson and other developing areas along U.S. Highway 221 and N.C. 88 east of Jefferson. The system has been designed to provide treatment for a sewered population of 1500 persons.

Areas Not Served by Municipal Sewerage Facilities. Since Jefferson and West Jefferson have the only municipal sewerage in Ashe County, the responsibility for sewerage and industrial wastes has been placed on individual property owners. Generally, homes equipped with inside plumbing utilize septic tanks. Those without indoor plumbing utilize outdoor privies. Commercial, industrial and institutional establishments have relied on private waste disposal systems. In the communities of Warrensville, Beaver Creek, Smithport, and East Jefferson and the Town of Lansing, the prevailing practice is to have septic tank and tile drainage discharge directly into adjacent streams.

IMPACT OF WATER & SEWER FACILITIES ON LAND DEVELOPMENT

Incorporated Areas

Once a regional water and sewer program is implemented, there should be adequate water and sewer facilities for both Jefferson and West Jefferson. Since Jefferson has more undeveloped land than West Jefferson, it has the greater growth potential, particularly for residential development. Lansing is not included in the regional water and sewer program. Its reliance on its separate water and sewer systems should curtail development in this area.

Unincorporated Fringe Areas

In addition to Jefferson-West Jefferson, the proposed Regional system would serve the surrounding suburban areas including East Jefferson, Smithport, Beaver Creek and development East along U.S. 221 and S.E. of West Jefferson along N.C. 163 to intersection of New River.

The completion of a Regional system will stimulate urban development within it's service area.

RECREATION

There are limited organized public recreational facilities in Ashe County. The Town of West Jefferson has a seven acre park. There are no recreational facilities in Jefferson.

Under construction is a 70 acre county park located approximately two miles north of Jefferson. The park will be built in phases over three years. It will include a lake with appropriate water activities; areas for sport activities such as volleyball, tennis, etc., and picnicking facilities. Mount Jefferson (475 acres) located east of Jefferson-West Jefferson is a state park that serves both local residents and visitors from other communities. Daily attendance has risen from 9,154 in 1960 to 45,422 in 1972. Blue Ridge Parkway runs through the lower portions of the County. Although there are limited recreational facilities provided by the County or the municipalities within the County, there are some private recreational facilities. There are three saddle clubs and Raccoon Holler campground, ten miles southeast of West Jefferson, has 80 campsites with water and electric hookups. Greenfield, located four miles northeast of West Jefferson, offers camping, horseback riding and miniature golf. The rugged natural beauty of Ashe County provides many opportunities for camping, hiking, hunting and fishing.

HEALTH FACILITIES

Within Ashe County there is one hospital which has a 76 bed capacity. The medical staff of the hospital consists of the following personnel:

Physicians--8
Registered Nurses--11
LPN--9
Surgeons--2

In addition to the hospital staff, there are six physicians in Jefferson and one in Lansing. The two dentists in the County have their offices in West Jefferson.

EDUCATIONAL FACILITIES

Ashe County has eight elementary schools (1-8 years) and three high schools (9-12). The three high schools are located in the central part of the County. Northwest is located in Warrentonville, Ashe Central is located east of Jefferson, and Beaver Creek is located south of West Jefferson. The elementary schools are scattered throughout the County, except in the northwest corner, which is sparsely developed.

There is no immediate plan for future school construction within the County. There are plans to phase out Elkland School and consolidate it with Fleetwood Elementary. School officials are considering construction of one senior high for the entire County. Obstacles are the terrain of the County and the wide distribution of students.

Table 17

School Data

Schools	Grades	Approximate Enrollment
Ashe Central	9 - 12	522
Beaver Creek	9 - 12	403
Northwest	9 - 12	371
Elkland	1 - 8	64
Fleetwood	1 - 8	254
Healing Springs	1 - 8	193
Jefferson	1 - 8	679
Lansing	1 - 8	548
Nathan Creek	1 - 8	236
Riverview	1 - 8	411
West Jefferson	1 - 8	516

Total

4,217

Source: Office of Superintendent of Schools
Ashe County, October, 1973

LAND USE

The preceding sections have dealt with the social, economic, and physical factors that have and will influence land development patterns within Ashe County. This section will examine the existing land uses within the County, excluding in most part the municipal jurisdictions of Jefferson and West Jefferson. The land uses in Ashe County have been grouped into the following categories:

- (1) Residential -- Structures containing one or more dwelling units, including single and multiple-family household units and mobile home parks;
- (2) Commercial -- Any activity dealing in retail or wholesale trade or providing a service to the public;
- (3) Industrial -- Those activities which are engaged in the processing or fabrication of raw materials or the production of commodities or materials;
- (4) Public and Semi-Public -- Public lands and facilities existing to serve the public, but not primarily for commercial purposes. These include churches, schools, cemeteries, recreation facilities and all other types of Federal, state and local lands.
- (5) Resource, Forest Land, Cropland, and Undeveloped Land -- Those lands which are not included in the above categories. This includes undeveloped land and water space, forested areas both managed and unmanaged, land in agricultural uses, and mining.

During February-March of 1973 the planner-in-charge conducted a "windshield" survey of existing land uses in the County. The results of that survey are presented in the generalized land-use map (Figure M). 4

The data generated from the survey, in conjunction with other statistical information, formed the bases of most conclusions reached on land-use patterns in Ashe County.



ASHE COUNTY

NORTH CAROLINA

GENERALIZED LAND USE

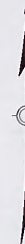
- RESIDENTIAL
- COMMERCIAL
- PUBLIC-SEMI-PUBLIC
- INDUSTRIAL

ASHE COUNTY

NORTH CAROLINA

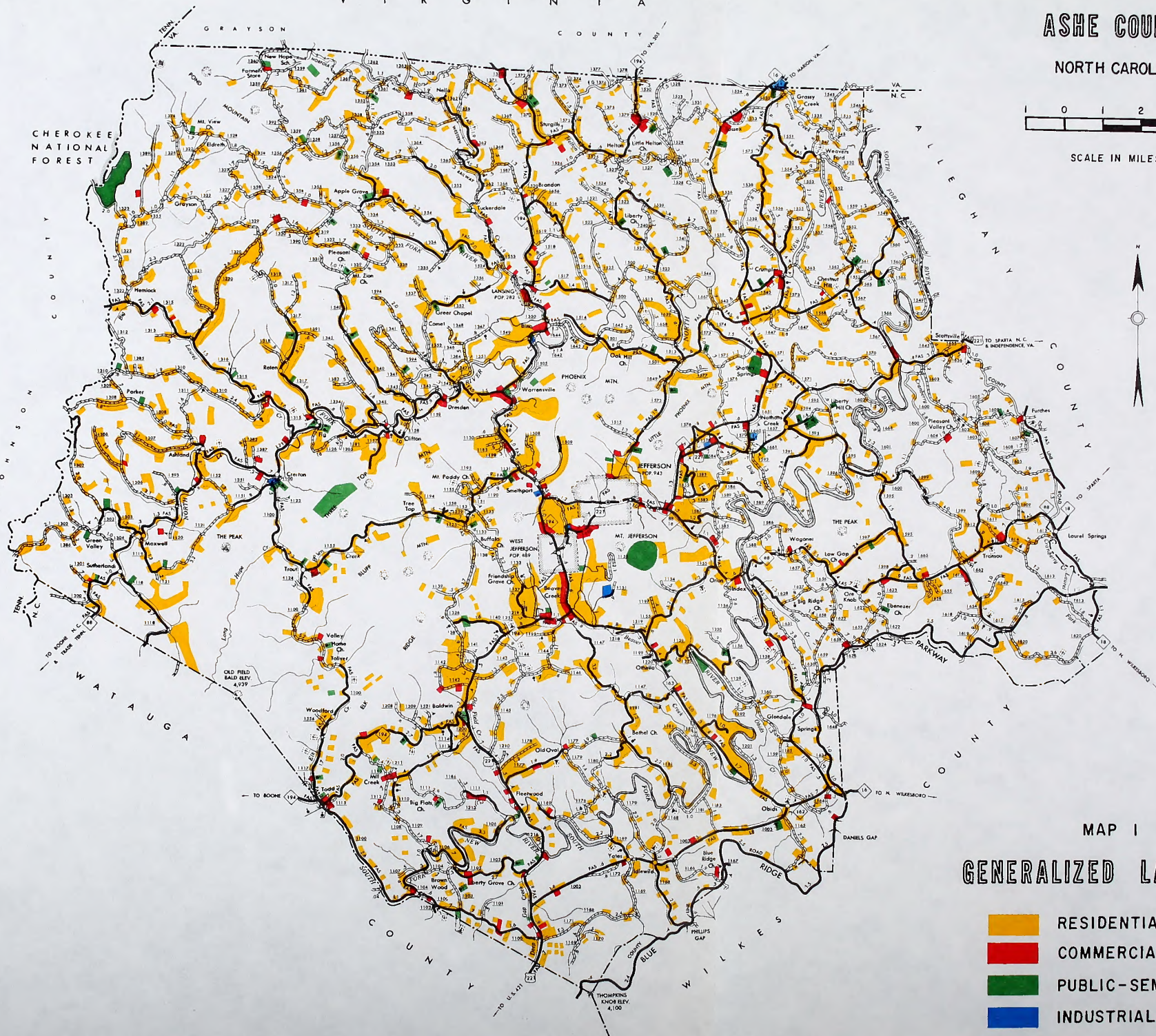


SCALE IN MILES



T E N N E S S E E

CHEROKEE
NATIONAL
FOREST



MAP I

GENERALIZED LAND USE

- RESIDENTIAL
- COMMERCIAL
- PUBLIC-SEMI-PUBLIC
- INDUSTRIAL

Table 18 Summary of Land Use 1968, 1971

	Acres		% Change
	1968	1971	
Urban Development ¹	10,000	38,202	+ 74
Cropland ²	50,000	26,200	- 48
Pastureland	65,000	94,800	+ 46
Woodland	145,500	108,000	- 25
Water Bodies ³	1,200	1,200	0
Federal Land ⁴	1,600	1,600	0
TOTAL	273,300		

Source: N. C. Department of Agriculture, April 1973 and
N. C. State University Department of Economics,
"N. C. Land Use Data."

1. Urban Development includes roads, residential areas, commercial, public and semi-public and industrial uses.
2. Cropland includes idle as well as cultivated land.
3. Water bodies includes rivers, streams, and pond over one acre.
4. Federal land includes the Blue Ridge Parkway and adjacent park and recreation areas, Doughton Park, Cumberland Knob and Cherokee National Park.

Residential

In 1960 there were 5,892 housing units in Ashe County. A decade later, the figure had increased to 7,011, which represents a 19 per cent gain in residential structures.

Single-family still is the dominant type of housing in Ashe County. In 1960 it represented 95% of all housing units. In 1970 it still constituted 89 per cent of all housing in the County.

The 1960-70 decade saw a rapid increase in alternate housing types---multi-family and mobile homes. In 1960 there were 35 multi-family units (two or more units). Ten years later the figure had climbed to 188---a soaring 437 per cent increase! As phenomenal as the growth in multi-family structures, it has not reached the heights that mobile home residential units have attained. There has been a 593 per cent increase in mobile homes in the County, from 59 units in 1960 to 409 units in 1970.

Most residential housing concentrations are found in the five townships that contain the five incorporated and unincorporated towns.

<u>Township</u>	<u>Housing Units</u> ¹
Clifton (Warrensville)	544
Elk (Todd)	149
Jefferson (Jefferson)	884
West Jefferson (W. Jefferson)	1,000
Piney Creek (Lansing)	289

As the figures indicate, the largest housing concentration is in the central part of the County, particularly in the townships of Jefferson and West Jefferson. It is in this area that most of the traditional type of subdivision development have occurred. Most of the multi-family development has also occurred in this area.

Single family houses or mobile homes located on individual lots randomly located is the most common housing pattern. Second home developments, such as Fleetwood Falls or Laurel Mountain, are becoming a larger part of the housing picture in the less populated areas. Although subdivisions by definition, they are not laid out in the traditional grid patterns which characterize subdivisions on relatively flat terrain. Most developments have narrow winding road patterns and the homesites stress privacy and protection of natural environment.

The 1960 U.S. Census reported that 38 per cent of all housing units had some plumbing facilities. The 1970 Census reported that the figure had risen to 65 per cent. The median value of owner occupied unit has increased 81.8 per cent in the decade between 1960 and 1970. Of course, this increase in value is not a completely true indicator of increasing quality of housing, since much of this dollar increase is simply a reflection of the declining value of the dollar. Between 1960 and 1970 the number of persons per unit has dropped from 3.8 to 3.2 per unit. Although the three indicators are not clear proof of the increasing quality of housing, they, collectively, do indicate a trend toward higher quality of housing units within Ashe County.

1. Figures determined by dividing Townships' populations by 3.2

People will continue to concentrate in the central part of the County, particularly in Jefferson and West Jefferson Townships. There are several reasons for this: (1) topography---most of the terrain in the area has a slope under 15%, which makes it desirable for subdivision development; (2) the existence of large tracts of land that could be subdivided, particularly in Jefferson; (3) accessibility to shopping areas, schools, and employment; (4) the availability of public water or sewer system if the regional water system is implemented.

Until the regional water and sewer system is implemented, there should be some restraint on high density housing. The Beaver Creek area is already experiencing problems with septic tanks. If and when the regional water and sewer system is completed as planned, it should be a stimulus to housing construction along its service area, particularly the area east of Jefferson along 163 and NC 16--US 221 north; the area south along 221 and Mt. Jefferson Road; and the area north along 194 to Buffalo Creek area.

Low density, single family structures, houses or mobile homes, will continue to be the dominant type of housing in most of the areas outside the central section of the County. The dependency on private wells and septic tanks, as well as the steep terrain will cause most homesites to be at least 20,000 square feet in size.

Second home development will play an important role in the housing picture of the County. Over half of the subdivisions under construction are directed wholly or in part to the second home market. The current "tight mortgage" market has caused some slacking in the demand for second homes, but it seems to be only a short-term situation. In the long term the demand for second homes in the mountains will increase.

Commercial

The Town of West Jefferson serves as the commercial center of the County. A smaller commercial center is in Lansing. Commercial development has also occurred on the fringe areas of Jefferson and West Jefferson. Individual retail operations are located along the major highways, particularly U.S. 221, N.C. 194 and 16. Away from the urban areas, commercial operations are generally limited to "country stores" which serve the dual function of service station and local grocery store. Many Ashe County residents shop outside the County. The shopping areas in Boone and Wilkesboro are relatively accessible to Ashe residents. For larger purchases, Winston-Salem is approximately two hours away by automobile. West Jefferson will continue to be the commercial center of the County. Commercial development will continue to develop in the fringe area of Jefferson-West Jefferson, particularly along N.C. 16 - U.S. 221 east of Jefferson, south along U.S. 221, north along N.C. 194 between Jefferson and Lansing. In the sparsely developed areas of the County, the "country store" type of operation will remain the major type of commercial operation, with some service related operations scattered at various points, primarily at road inter-sections. Tourist related operations may develop around the Parkway, such

as craft shops, motels, etc. If the Blue Ridge Dam Project is implemented, recreational-related commercial operations will develop in the areas near the proposed State Park at the forks of the New River.

Industrial

Most of the manufacturing sites are located in the West Jefferson -Jefferson area. Jefferson has 13.8 acrea (1.5%) of the area utilized for manufacturing; West Jefferson has nearly 30 acres (4.4%). There are over 150 acres of land outside Jefferson and West Jefferson allocated for manufacturing. The larger sites are Sprague Electric, with 66.2 acres; Appomattox Knitting Co., with 12.8 acres; and Industrial Plastics with 66.2 acres. Most of the industrial development is centrally located in the County. Exceptions are Sprague in Lansing and Knox Knitting in Creston. Most of the factors that have caused residential development to be centrally located have also caused industrial sites to be located in the same general area.

Public and Semi-Public Land

There are approximately 1600 acres of federal land in Ashe County. This includes the Blue Ridge Parkway, adjacent parks and recreational areas, Doughton Park, Cumberland Know and Cherokee National Park. The State of North Carolina owns 475 acres in Mount Jefferson State Park east of West Jefferson. The County's property includes its office facilities, school sites throughout the county, a 70 acre recreational site east of Jefferson, a proposed airport site east of Jefferson, and various small recreational sites scattered throughout the county. An undertermined amount of land is used for churches, church camps and cemeteries in the county. These land uses are widely dispersed. There are no plans for any major changes in this land use category, except for the proposed Blue Ridge Dam Project. If the project is completed, a 1,000 acre State Park will be created in the forks of the New River in the northeast corner of the Ashe County.

Forestland, Cropland, and Undeveloped Lands

Although urban development is increasing in the County, the predominant land use is for non-urban types of use. There are approximately 108,000 acres of forestland, which is a 25% decline over the 1967 figure. Cropland has also declined in Ashe County. In 1971 there were 26,500 acres in cropland. In 1967 the figure was 50,000. As farming becomes a smaller part of the local economy, more cropland will be diverted to other uses such as pastureland or urban development.

Many areas of the County are undeveloped because of the rocky terrain, steep slopes and lack of accessibility to the highway system. This is particularly true in the northwest section of the County. Much of the undeveloped areas will remain undeveloped or utilized for agricultural uses. Some of the undeveloped areas may be utilized for second home homesites.

CONCLUSIONS and RECOMMENDATIONS

In conclusion, there are several problem areas that are apparent from the analysis of land uses and factors effecting those uses:

1. There have been no efforts to insure that new subdivisions meet acceptable development standards. The results are that there are subdivisions that have inadequate road systems, small lots, poor drainage systems. Shoddy development may become an increasing problem as second home development continues in the County (outside developers moving in for a quick buck). Adoption and enforcement of an effective subdivision ordinance can help ameliorate this situation.
2. Closely related to the first problem is the quality of housing. Except for an electrical inspection and a septic tank inspection by the Health Department, there is no supervision over the construction of housing units in the County. Enforcement of the State Building Code will help insure that all housing units meet minimal standards.
3. Many developers are not taking adequate steps to prevent soil erosion when land is uncovered during construction of new homes, stores, and factories. This is a particularly serious problem in Ashe County with its sloping terrain. Adoption and enforcement of a sedimentation control ordinance will eliminate this problem.
4. Efforts should be made to protect the limited number of industrial sites in the County. Residential developments, particularly those in the central part of the County, should also be protected from encroachment from incompatible land uses in order to protect land values and maintain a more aesthetically pleasing environment. Strip commercial development is occurring along the fringe areas of Jefferson-West Jefferson. Adoption and enforcement of a zoning ordinance can help solve these problems.

BLUE RIDGE DAM PROJECT*

The Blue Ridge Dam Project could have a major impact on Ashe County. Therefore, it should be considered in any land use study of the County. Following is a general description of the project and its impact on Ashe County, both the positive and negative ones.

General Description

The Blue Ridge Project would be a combination conventional and pumped storage hydroelectric project consisting of two adjoining and integrated developments---the Upper Development and the Lower Development. The Upper Development is located principally in Grayson County, Virginia, but significant portions of the reservoir extending into Ashe County, North Carolina, and to a lesser extent, Alleghany County, North Carolina. The Lower Development is also located in Grayson County, Virginia, except for minor portions of its reservoir which extend into Alleghany County, North Carolina. Transmission Lines associated with the project would traverse Grayson, Carroll and Wythe Counties in Virginia.

The Blue Ridge Project Upper Development would include a reservoir having a surface area of approximately 26,000 acres at water surface elevation 2,652 feet, containing approximately 2,010,000 acre-feet of storage. Maximum drawdown of the upper reservoir would be 10 feet, to elevation 2,642 during the period of June 1 through Labor Day of each year, until 1985, at other times the maximum drawdown would be 12 feet, to elevation 2,540. After 1985, the 10 foot limitation would apply at all elevation 2,652 and 2,640. During the peak recreation season, because of the 10 foot limitation, usable storage would be limited to 245,000 acre-feet.

The Lower Development would include a reservoir having a surface area of 14,400 acres at elevation 2,446, containing about 1,241,000 acre-feet of storage. The usable reservoir storage capacity for power and other purposes would be 626,000 acre-feet between elevations 2,390 and 2,446.

Impact on Ashe County

1. Recreation Site. The State of North Carolina would develop a park between the two forks of the New River. The park would contain approximately 1,000 acres. The proposed state park would include picnicking facilities consisting of tables,

*Source: Draft Environmental Statement: Modified Blue Ridge Project No. 2317 North Carolina/Virginia, Federal Power Commission, Bureau of Power, January 1973

fireplaces, shelters and toilets; a beach front consisting of bathhouse and concession building; at least two boat launching facilities and a marina; a camping area complete with central washhouse and dumping station for self-contained trailers; completely equipped vacation cabins for family use; nature and hiking trails, coupled with interpretive shelters and exhibits dealing with the natural history of the area; bridle trails; a boat rental facility for row boating and fishing; and supporting facilities such as ranger residences, maintenance, and service areas.

2. Employment. At its peak, construction of the project would employ as many as 1,500 construction workers, with about one half of this manpower to be recruited locally. Therefore, the project would be a stimulus to local employment.
3. Diversify Economy. Recreational development on the reservoir will help diversify the local economy. Recreation-related enterprises, which currently are not significant, will develop. Population growth will be accelerated by the presence of the new reservoir and their public use facilities.
4. Improved Roads. The project will require the relocation of many roads and bridges in the County. The Appalachia Power Company will help finance the new roads and bridges. All new roads will be built by the N. C. Department of Transportation to present day standards. Since many of the roads were built many years ago, the net result would be an improved road system in the vicinity of the project. This improved road system would complement the reservoirs and help to accelerate the economic development of the County by providing high quality local access to recreation development and industrial plant sites.

Negative Impact on Ashe County

Air, Water and Noise Pollution. During construction, the project will create water pollution in the New River. The removal of vegetation in the reservoir sites and the subsequent filling of the reservoirs will result in siltation of the river. This problem will exist only during the construction phase of the project. As for noise pollution, most of it will also be temporary. The unpleasant sounds associated with heavy construction will be present during construction. Once constructed, the Blue Ridge Project would emit no contaminants to the atmosphere, nor would it discharge any chemical or other waste in the water.

Fish and Wildlife. The Blue Ridge Project would bring about a significant change in the ecological systems, including sports fishery resources, of the project area. The Upper Reservoir would change the New River aquatic habitat from a flowing stream

to a lake. Existing animals and vegetable life must be modified or be replaced by life that is more compatible to the new environment. The Department of Interior has estimated that the loss in existing fishing value resulting from the project reservoirs would be \$47,000 per year. However, a new fishery resource, having an estimated annual value of \$140,200 would be created in the project reservoirs.

Inundation of land by the project reservoir would reduce wildlife habitat and thereby cause a hunting loss. The species affected are deer, rabbit, squirrel, fox, raccoon, opossum, turkey, quail, grouse, doves and ground hog.

Land Use. The Upper Development Reservoir will require 8,400 acres in Ashe County (3.07 per cent of the County). Inundation of the project lands will terminate their present uses. Most of the land is devoted largely to agriculture, grazing, timber production, and wildlife habitat. The County will lose approximately \$8.5 million annually in agriculture income. The reservoir will take approximately \$70 million off the tax books for the County.

Displacement of People. The reservoir will displace about three thousand people in Ashe County (15% of County). 124 houses will have to be relocated---40% can be relocated on existing property; the remaining 60% must be moved to new sites elsewhere.

Change Character of County. Although the recreational facilities will stimulate the local economy, it will also bring in new people and new development. This activity will modify the local character of the County. More of the complexities, sophistications and adversities of an urbanized society would doubtless intrude in this predominantly rural area.

Aesthetic Factor. A unique natural habitat will be destroyed. For those who love the New River and the countryside that will be inundated, there will be a loss that can never be quantified.

The United States Senate reversed a decision that it had made four months ago and voted in late May to delay the construction of the Blue Ridge Dam Project at least for two years. The Senate, by a vote of 49 to 19, has set aside a 70 mile stretch of the New River in North Carolina and Virginia as a "potential component" of the National Wild and Scenic Rivers System. If the proposal is passed by the House of Representatives, the legislation will prevent the Federal Power Commission from licensing the \$435 million Blue Ridge project while the river's eligibility for permanent designation as a wild and scenic river is studied by the U. S. Interior Department.

APPENDIX

SOIL INVESTIGATION OF ASHE COUNTY*

Information for detailed soil studies in Ashe County, North Carolina is scattered. Best basic data sources are found in soil conservation survey reports of adjacent counties. These are in different terrains in watersheds other than the New River basin; therefore, some evaluation and adjustment of classifications are necessary.

Projection of required soils data from nearby county soil maps is feasible when based upon regional geologic mapping. Sources of the necessary geologic data are from state geologic maps that have been recently revised and updated. These include statewide maps for Tennessee and North Carolina. Also valley and ridge province maps for the State of Virginia published more than 20 years ago are available.

Ashe County is located among the crest ridges of the Blue Ridge Mountains. This means its unusual relief and relatively cool climate must be compared to adjoining regions and considered in making projections of soil information. Relief and climate descriptions have been included in the body of this planning report and these factors were considered when soil classifications described for Johnson and Carter Counties, Tennessee were modified to apply to the northwest portion of Ashe County. Also soil types occurring in southeast Ashe County are described for different topographic terrains and climate areas of the Piedmont. The basic information has been adjusted for gneiss and schist areas of Ashe County.

Soil associations considered are standards used by the United States Department of Agriculture in their mapping of county and statewide areas located in the Southern Appalachians. The United States Soil Conservation Service has been supported in their work by local agencies, state groups and other federal agencies. This includes TVA and the Tennessee Department of Conservation for areas to the west of Ashe County and the North Carolina Department of Agriculture for counties east and south.

Bedrock masses from which the residual soil mantle in the Ashe County originates are derived from acid crystalline rock types. This includes granites or granite gneisses and several dominant types of schist and gneiss. Different soil types are developed from rocks which possess special characteristics of mineral composition. Also due to difference of climate and its influence on weathering, slightly different soils are

*Hensley-Schmidt, Inc., Comprehensive Plan for Development of Water & Sewer Facilities in Ashe Co., 1968

produced from siliar rocks occurring in the Piedmont and in the high mountains. Mountain soil associations are generally younger due to their occurrence on a more sloping terrain than in the Piedmont location. Constant removal of soil material by erosion keeps most mountain soils thin and "young".

The units which would be mappable to the U.S. Department of Agriculture, Soil Conservation Service, in Ashe County consist of Clifton, Perkinsville, Ramsey, Porters and Ashe Associations for the residual uplands. Along many major drainage courses high stream terraces of substantial amounts of Masada and Sequatchie associations occur. Along the base of steel hill slopes colluvial soils have accumulated in important amounts. These include associations such as Camps, Jefferson and Tusquitee. In narrow bottom lands along rivers and creeks of Ashe County soil types that strongly resemble Congaree and Dunning associations are present. With these many detailed groups and absence of comprehensive mapping by government soil scientists, Ashe County has been mapped for purposes of this report to show three major regions of soil differences that would influence planning and land use.

A broad division of the County can be made in which one large area of soil types occurs in an area underlying the northern 40 per cent of the County. Another class predominates in the southeast 60 per cent of the area. Superimposed upon these two is a third soil type confined to stream valleys of the main rivers and all important tributaries.

Soils of the Intermountain Valleys

The intermountain valley system so prominent for most of Ashe County roughly approximates the occurrence of schist and gneiss bedrocks. The northwest boundary of this exposed rock mass trends northeast and southwestward approximately paralleling the stream course of North Fork of New River. The towns of Jefferson and West Jefferson are located in this region. Outcrops of these rock types extends many miles southeastward down the Blue Ridge front onto the Piedmont Plateau.

In most cases along the southeast side of Ashe County mica gneiss predominates. This rock weathers into a residual mass often 10 to 80 feet thick. It yields micaceous soils that tend to be well drained and light in color. There is an abundance of quartz grains that make the soils sandy. There are also large masses of unweathered gneiss outcrop especially in deep valleys. Mica schist, the other important rock type on the southeast side of the county, has been mapped in a small area located 10 miles east of Jefferson near the town of Laurel Springs in adjoining Alleghany County. This rock yields light colored, soft soils.

Most of central Ashe County is underlain by belts of hornblende gneiss. Strata is mingled with important amounts of both light and dark colored micas that give a dark colored rock. This unit has been mapped

by most geologists as a Roan formation. It yields darker soils, usually brown or light red, than the mica schist or mica gneiss formations.

Clifton soil associations are typical for hornblende gneiss areas. For the Ashe County region this would be described as brown to dark reddish brown, relatively deep soils on mountain uplands. Distinctive soil profiles are developed but they still show strong characteristics of original bedrock structures. Greyish brown to yellowish brown associations of Perkinsville, Ramsey and Porters occur in many narrow bands across Ashe County following principal structural trends. These generally develop on smooth terrains showing broad rounded knobs. Many have been cleared and much of available agricultural land of Ashe County is located on these exposures. Ashe soil associations of the Ashe County region originate from granite gneiss portions of bedrock. These soils are greyish brown to very light yellow and at times they may be thin. Stoney soils and exposed outcrops are common especially in areas adjacent to the Blue Ridge escarpment.

Soils occurring in the intermountain valley areas are adaptable to any reasonable land use. These associations have agriculturally productive in the past and their fertility can be maintained so that crop growing is still feasible. Under present conditions row crops have been largely eliminated because the terrain is not suitable for mass food production mechanically. There has been substantial change over to pasture land where cattle production for both meat and dairy products can compete with other regions. These soils possess important engineering characteristics. Excavation is possible with limited blasting for most underground utilities. Also cut and fill construction for access routes can be accomplished at moderate cost. Component granular materials, especially the more micaceous clay varieties, are subject to erosion but this can be controlled either by grassing or riprap stone protection. In most cases high unit loadings are practical for local soil exposures. Residential use is unrestricted. Other uses such as recreation and forest growing are feasible for even the rough, stoney land of these areas.

Soils of the High Ridges

This group of soil associations is shown on the map as mantling bedrock underlying the northwest portion of Ashe County. Dominant rock types which gave rise to the soils are granite gneiss belonging to the Cranberry formation. However important belts of volcanic rocks have contributed to some parts of the soil mantle. In the high mountain terrain common to the northwest part of the County even the slow rate of weathering for these rocks is lengthened by the cooler climate and steeper slopes.

Soil associations commonly consist of Perkinsville and Ramsey types for the highest ridges and stream divides. Lower slopes are often mantled with thick accumulations of colluvial material. These consist of greyish brown to light yellowish brown Jefferson soils. Along the toes of many steep slopes the soil remains young in environment where erosion and stream transportation keep pace with weathering. Many pockets contain numerous boulders that are rounded and partly angular. Many basic rocks, and in particular the volcanic phases, yield colluvial soils that resemble Tusquitee associations.

These are brown to dark brown. However, where large areas of granite gneiss are exposed upslopes, yellowish brown colors may dominate. Rock fragments, both angular and rounded, are also common to this soil association.

Land uses for this area are more restricted than that for the soils of the intermountain valleys. Agriculture is limited to small patch type farming for both row and pasture cropping. The only real gentle slopes are on mountain tops and along the crests of dividing ridges. Due to narrowness of these features, individual fields are small. Timber cropping is practical wherever access for harvesting can be provided economically. Much of the forest crop is presently hardwoods; however, its cool climate means northern type conifers could be produced. For engineering purposes the gneiss offers its best use as a source of raw materials such as dimension and crushed stone. Many parts of the Cranberry granite have been mineralized and there is some potential for land use such as providing surface facilities for underground mining. Recreational uses of the land are good because much of it is wild and undeveloped.

Soils of Stream Valleys

In the aerial extend in comparison with other soil groups set forth for Ashe County, this mapping unit is minor. Only narrow bands, a few hundred yards wide, occur along major creeks and secondary or tertiary streams. These are exceptionally important to the development of the region because they provide the largest source of relatively gentle sloping land at low elevations. The soils originated as alluvial debris material from erosion of the adjacent uplands. Congaree type soils are developed as first bottoms consisting of boulders, sand and gravel with a minimum cover of silt and clay. These are dark brown in color and they are free of all mottling below a depth of 24 inches. Dunning soils have originated from more calcareous bedrock types, which, in the case of Ashe County, would be hornblende schist. They are dark grey or nearly black, occur on the first bottoms and show mottling to a length and depth of about 18 inches.

Land use of these soil types has been extensive in the populated portions of the County. In the vicinity of Jefferson and West Jefferson about all of the space is consumed by commercial and residential development. Also light industry has occupied substantial areas of this type land. Important areas still remain for agricultural use and these are located in the deep valleys of the South and North Fork of New River. Also to a lesser extent agricultural use has been made of some land along major creeks draining the area.

